1: Conzemius M-4, 5 (1921) 1932
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231 sp.), agouti (*Dasyprocta* sp.), deer (*Odocoileus* sp. and *Mazama* sp.), squash or coati (*Nasua narica*), and raccoon (*Procyon lotor*).

Wickham (b: 163; c: 200) even saw a tame otter among the Ulwa of Rio Escondido. The Indian women have great patience in taming young animals and they will suckle them as they would their own children. These animals are generally caught while still very young.

INDIGENOUS BIRDS.—The domestic turkey is now found in almost every hut. Among the other native birds which are usually tamed by the Indians are the following: curassow (*Crax* sp.), guan (*Penelope* sp.), mountain hen (*Tinamus* sp.), muscovy duck (*Cairina moschata*), macaw (*Ara* sp.), parrot (*Chrysotis* sp.), parrakeet (*Conurus* sp.), toucan (*Ramphastos* sp. and *Pteroglossus* sp.).

The birds are taken out of the nest while still young, but old birds are occasionally tamed. When slightly wounded or when shot with a blunt arrow they are carried home and kept for a few days without any food. After that they become generally very docile and are ready to eat the food given to them.

231 NATIVE BEES.—Various species of the native stingless bees are occasionally found in a semidomesticated state around the Indian 263 huts. About a dozen species are found in the country, all belonging to the family of the Meliponidae. The largest of them is about the size of the European bee. The honey cells are circular and the honey is yellow and slightly acidulous in taste; it does not crystallize when kept for some time, as is the case with that of the European bee. It is slightly laxative and is generally diluted with water, either fresh or after having been allowed to ferment. Previous to the introduction of sugar-cane, honey was used to sweeten food. The wax, which is 237 light brown in color, is used as "cement" in the making of arrows, spears, and other implements; in certain regions it is also used for 222 lighting purposes. The Indians also collect the honey from the bee nests in the forests and store it in large bamboo joints.

231 DOMESTIC ANIMALS OF FOREIGN ORIGIN.—The most common domestic animals are the dog, pig, cattle, and fowl, while the horse, cat, goat, 177 and sheep are rarely seen. All these animals are of foreign origin and have been introduced from the interior of Honduras and Nicaragua. Among the Indians they are known almost invariably by their Spanish or English name.[40] When the Indian family travels all the livestock is taken along.

231 CATTLE.—Cows (M.: *bip*, from the English "beef"; S.: *toro*, from the Spanish *toro* "bull") are owned by many Indians, especially those living in the savannas. They feed on the coarse grass, there being no artificial pastures made by the Indians. The cows are rarely

[40] The Ulwa, however, call the cow and the horse by the native names they apply to deer (*sana*) and tapir (*pamko*), as do a number of other tribes in Central and South America.

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276 Still, it is not certain that tobacco was known to these two tribes in pre-Columbian days. Their names for the plant (M.: *twako;* S.: *aka*) point toward its introduction by the Europeans. The Indian tribes living on the Pacific side of Nicaragua at the time of the discovery knew tobacco, however, and they smoked it in the form of cigars. Our name "tobacco" comes from the word *tabaco*, which the Indians of Haiti applied to a sort of pipe. This instrument consisted of a small wooden tube, shaped like a Y; the two points of it were inserted into the nose, while the other extremity was held in the smoke of burning tobacco, and thus the fumes were inhaled.

[439] At the present time the plant is not cultivated by the Indians under consideration. Leaf tobacco is imported from the United States, and this foreign product is preferred to the one raised in Central America. Among the Sumu smoking is confined principally to the men, but this practice is common enough among Miskito women and children. The leaf is smoked chiefly in pipes (M.: *twako mina;* S.: *aka pan, aka pana*), which are made locally of clay, wood, or maize cobs; imported clay pipes are also bought in the shops. According to Wickham (c: 206), the Ulwa of Rio Escondido do not smoke the pipe, but use the leaf rolled roughly in cigar form made on European models. Very few chew tobacco, while the habit of snuffing is entirely unknown. Among the females the pipe is frequently passed round, each one of the women present taking a few puffs and then passing the pipe to her neighbor. A supply of tobacco is a readily accepted currency for the acquisition of food in the more primitive parts of the country. For small favors the traveler is also expected to give one or more tobacco leaves in exchange.

263 CAYENNE OR RED PEPPER.—Various species of very pungent, small red peppers (M.: *kuma;* S.: *anmak, añmak*), growing in a semiwild state on perennial shrubs (*Capsicum frutescens* L. and *C. baccatum* L.), are used with food as a stimulant and as an excitant. They were found in the Miskito kitchen during the times of Dampier (I, 9).

The Miskito usually prepare a "sauce" (M.: *kuma laya;* S.: *añmak warni, añmak waska*) with these peppers, which they mash and then add some lime juice and salt. They store it in bottles and pour a small quantity of the liquid on their food while eating. The Sumu, on the other hand, grind the red peppers on the metate together with coarse salt. Upon serving the meal the women place a little of this mixture on a large leaf, and every one seasons his own food. These peppers may also replace salt entirely. The large "sweet" chilies (*Capsicum annuum* L.), which grow on annual plants, are also occasionally planted and eaten as a vegetable.

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SALT.—There is no record of the Indians obtaining salt from the natural salt incrustations found occasionally in the country, and which are visited by certain wild animals.

The Miskito living near the seaside occasionally get salt by boiling the water of the sea or the adjacent brackish lagoons. At the height of the dry season the lagoons are said to be even richer in salt in certain parts than the sea itself. The water is boiled in big iron pots until evaporated, and the salt remains at the bottom in the form of a cake. The Sumu living a short distance inland from Rio Prinsapolca and Brangman's Bluff employed in former days a very primitive and laborious method, which is described as follows by M. W. (302): "They make a great fire close to the seaside, which when it has well burned the sticks asunder, they make them singly, and dip the brand in the sea, snatching it out again, not too soon, nor too late; for, by the first, the drops of salt water which remain boiling on the coal would be quite consumed through too much heat, the coal not being sufficiently quenched, and, by the latter mismanagement, would be quite extinguished, and want heat to turn those drops of water into corns of salt, which, as fast as made, they slightly wipe off with their hand into a leaf, then put that brand's end into the fire again, and take out the fresh ones successively, that in half an hour's time a man makes about a pound of grey salt."

In practically all the Central American languages the names for salt and sea are identical. The Miskito have, however, no native name for salt and call it by the Spanish word *sal*, while their term for sea is *kabo*.* The Sumu call both sea and salt *kuma*, which latter name the Miskito apply to red peppers or chilies.

SUBSTITUTE FOR SALT.—The Sumu of the interior make a substitute for salt from the ashes of the midrib of certain palms, in particular the pacaya or mountain-cabbage palm (*Chamaedorea* sp.; M.: *silina;* S.: *tapal*) and a smaller, spiny species, known by the Indian name *kakka*. The ashes are collected in a vessel with hot water, in order to dissolve their contained salts. After removing all impurities, the solution is evaporated in a large earthen vessel by boiling it down over a slow fire, whereby a whitish crystalline matter becomes deposited, which furnishes a good substitute for salt. This method was observed by the Franciscan missionary Fernando de Espino in 1667

* Cabo is the Spanish name for "cape," and the phrase "El Cabo" is used for short for the settlement Cabo Gracias a Dios situated at the mouth of Rio Coco. On the strength of this it has been claimed by some that the Miskito were originally an inland tribe, who had no knowledge of the sea, and that they first saw it when they emigrated from the interior down the Rio Coco to El Cabo, adopting therefore this latter name to designate that great water sheet. This explanation is of course unsatisfactory.

1: Conzemius M-4, 5 (1921) 1932
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263 or 1668 among the Indians (Sumu or Paya) living around Rio Guampú in Honduras.[88]

VANILLA.—Sloane (a: p. LXXVIII) gives an account of the method practiced by the Miskito in curing vanilla (*Vanilla planifolia;* M. and S.: *diti bâinia*). The present-day writer has not observed that the Indians make any use of the pods, except in flavoring a drink prepared from cacao and maize.

249 ANNATTO.—Annatto (M.: *dûlala, tmariñ;* S.: *awal*) is cultivated
263 chiefly for the face pigments furnished by the red coloring matter
177 surrounding the seeds; it is not used as a condiment, except in isolated cases, where this habit has been introduced by the Ladinos.

COOKING OILS.—The kernels contained in the seeds of various palms
252 are made into oil, which is occasionally used in the kitchen. The most important one is that extracted from coconuts. The nut is grated and then boiled, the oil being skimmed off as it rises to the top. The seeds of the corozo (*Attalea* sp.), bone or oil palm (*Elaeis melanococca* Gaertn.), huiscoyol (*Bactris horrida* Oerst.), and the kahka palm are also opened occasionally to extract oil from the kernel. Cooking oil is also furnished by the red fruits of a forest tree (M.: *yari;* S.: *yara*), and by a small shrub called *wari-klua* by the Miskito.

263 SWEETENING FOOD AND DRINK.—Previous to the introduction of sugar-cane the Indians had to rely upon ripe bananas or plantains and wild honey to sweeten certain food beverages. Now sugar-cane juice is boiled into sirup or brown sugar. As soon as the juice has been squeezed out it is poured into a large pot on the fire; as the heating progresses a scum arises which is skimmed off with the aid of a calabash shell pierced with holes and attached to a long stick. When sufficiently thick the brown liquid is poured into bottles and kept until needed. For the making of sugar the juice has to be boiled somewhat longer; finally it is poured into wooden molds where it crystallizes.

VARIOUS.—The round berries of the allspice tree (*Pimenta officinalis*), which grows wild in the forest, are gathered, dried in the sun, and used to flavor certain beverages.

Black pepper and cinnamon have also been introduced into the native kitchen; both of these commodities are bought in the local shops.

276 The chewing of coca, which was a current habit among the Nicarao of the Pacific coast of Nicaragua at the time of the conquest, appears to have been unknown on the Mosquito Coast.

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[88] "Hacen sal de unos árboles que hay en aquellas montañas, a manera de coyol o coco; rajan este árbol, hazendo astillas, quemanlo, hacen ceniza, hacen de ella legía; esta en una olla grande la echan, sola la legia sin la ceniza, y a fuego manso la van calentando hasta que se convierta en sal; es muy blanca, pero no tan fuerte como la que usamos." (Serrano y Sanz: 368.)

3: Pijoan D-5 (ca. 1945) 1946
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The most important fruit plant of the Miskito is the banana *(siksa)*. It is not indigenous to America but was brought by the Spaniards. The banana tree produces one good crop and the new shoots appearing at its base are transplanted for another crop. Of the great variety of bananas and plantains grown by the Indians the most common is the *Gros Michel*. Sweet cassava *(yauhra)* is the staple food for the coastal Miskito and it is also cultivated by those living inland. Eddoes or tanias *(duswa)* which are known also by the name "Coco", are cultivated for their edible tubers.

A semiwild yam and sweet potato *(tawa)* is eaten; pumpkins and squashes are also grown to some extent. Maize *(aya)* or Indian corn, which forms a staple food practically all over Central America, is sparsely and occasionally cultivated by the Miskito. When grown the corn is stored by hanging it under a roof over a low fire and smoked in order to prevent molding. Red or black beans *(snek)* are grown to a very small extent by the Miskito. Rice has been recently introduced. The grains of rice are heavy and rounded and differ from our native wild rice or those kinds ordinarily found in the tropics. The pejibaye *(supa)* is cultivated for its edible fruit; the Central American name for this plant appears to be taken from the Arawak language of Haiti. It is not a native plant in this area, so that it is found only in cultivated state and deserted palms indicate former village sites. The coconut palm *(kaya)* is found in a semiwild state. The Indians drink the juice of the nut, eat the tender kernel, and extract the oil. Oil is obtained by skimming the top of a boiling decoction of kernels and water.

Sugar cane *(kayu)* brought by the Spaniards during the sixteenth century is grown by the Miskito. They have a mill to extract the juice but have not learned to prepare sugar from it. They drink the fresh juice of the plant or allow it to ferment; sometimes it is boiled into a brown syrup which on cooling partially hardens to form a sort of brown sugar. Cacao which is indigenous, is sometimes cultivated but the pods are usually obtained from wild trees.

The most common native fruit trees are pineapples *(pihto)*, papaws or papayas *(twas)*, avocados or alligator pears *(sikya)*, soursops *(dwarsop)*, cashews *(kasan)* and plums *(polms)*. The common fruit *(dwarsop)*, cashews *(kasan)* and plums *(ploms)*. The common fruit dock, grapefruit, mangoes, breadfruit, tamarind, and rose apples. A few bushes of cotton, chili peppers and annato are found near every lodge.

3: Pijoan D-5 (ca. 1945) 1946
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252 Meat and fish are either boiled in water or roasted in hot ashes.
262 The favorite meats are red monkey and white lipped peccary. Birds eggs are eaten, even if partially rotten but the eggs of domestic fowls are seldom used. Bananas are cooked in many ways depending to a great extent on the degree of ripeness. Fish are wrapped in bajagua leaves and roasted or fried in coconut oil.

Vegetables such as cassava, sweet potatoes, tania, yaws, green bananas and plantains are either boiled in water or placed with the meat for roasting. The pith or "cabbage" or various palms are also cooked and eaten and other wild fruits are used raw when in season A sort of bread is made from time to time by grinding dry maize in a metate and adding water. The mixture is then wrapped in bijagua leaves and allowed to stand for several days during which time it ferments. It is then baked in embers.

A sort of ensilage called *bisbaya* is made by the Indians and consists chiefly of green bananas, plantains, and pejivales. These are peeled and buried in the ground, covered layer by layer with bijagua leaves and the ensilage is not uncovered until required for food. The fruit retains its whitish natural color and turns black only after exposure to air. These food supply units have been known to last for years. Bisbaya may be consumed as a beverage after being toiled with water or it may be baked in leaves as a sort or bread. The fruit of the pejivalle palm is treated in a similar manner.

252 Various species of pungent small wild peppers are used with food
● 263 as a seasoning. The peppers are mashed with lime juice and little salt to make a sauce which is stored in containers and used at meals to replace salt. Besides the use of peppersauce the ashes of burned palms are often used to replace salt and in fact have a high salty flavor. Vanilla is used to flavor a drink prepared from cacao and maize.

262 The eating of earth and charcoal (geophagia) is common among women and children and the exact physiological effect is unknown. Milk from domestic cows is common and is usually consumed as it sours or converted into a cheese.

The Indians are fond of foods that have soured or spoiled a little
[273] and often allow many decoctions to ferment; distilled liquors, however, are unknown.

221 *Seasonal intake of foods.* Meat, fish, fowl, cheese and milk are con-
262 sumed daily throughout the entire year but consumption of vegetables and fruits is seasonal.

January *Aladi cuti, Inupu cuti:* bastard cedar flowering time. Citrus fruits in quantity, avocadoes, melons, nuts.